

WHAT IS CLAIMED IS:

1. A superconducting molded body based on a cuprate material and obtained by melt texturing, wherein said body has a zinc cation content of 50 to 5000 ppm by weight.

2. A superconducting body according to claim 1, wherein said superconducting body has a zinc cation content in the range from 100 to 1000 ppm by weight.

3. A superconducting body according to claim 1, wherein said cuprate material is a rare earth metal barium cuprate material or a bismuth (lead) alkaline-earth metal copper oxide material.

4. A superconducting body according to claim 3, wherein said cuprate material is a rare earth metal barium cuprate material and further comprises cations of at least one element selected from the group consisting of strontium and calcium.

5. A superconducting body according to claim 1, further comprising aluminum cations in an amount of from 2 to 100 ppm by weight.

6. A superconducting body according to claim 5, comprising aluminum cations in an amount of from 5 to 10 ppm by weight.

7. A superconducting body according to claim 1, wherein said body contains a total amount of cations selected from the group consisting of zinc cations, strontium cations and aluminum cations of 1200 ppm or less by weight.

8. A superconducting body according to claim 1, wherein said superconducting body is obtained by heating the molded body at a temperature of 300° to 570°C for up to 200 hours in a pure oxygen atmosphere or in an inert gas mixture containing 0.1 to 20% by weight of oxygen, and subsequently slowly cooling the heated body.

9. A superconducting body according to claim 8, wherein said superconducting body is obtained by heating the molded body at a temperature of between 480° and 520°C for at least 50 hours in a pure oxygen atmosphere.

10. A superconducting body according to claim 9, wherein said superconducting body is obtained by heating the molded body for from 100 to 200 hours.

11. A superconducting body according to claim 8, wherein said superconducting body is obtained by heating the molded body at a temperature of from 300° to 500°C in an inert gas mixture containing 0.1 to 20% by weight of oxygen.

12. A superconducting body according to claim 8, wherein said superconducting body is obtained by a process in which the molded body is held at a temperature of 550° to 600°C for up to 100 hours prior to treatment with oxygen.

13. A superconducting body according to claim 1, wherein said body is configured as a target.

14. A cuprate powder for producing superconducting material, said powder having a zinc cation content in an amount of 50 ppm to 1000 ppm by weight and a grain size distribution of $d_{50\%}$ of less than 35 μm determined by a CILAS laser granulometer.

15. A powder according to claim 14, wherein said powder is a $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ powder or a bismuth (lead) alkaline-earth metal copper oxide powder.

16. A superconducting body according to claim 1, wherein said body is formed into a superconducting cable, permanent magnet, short circuit current limiter, transformer, generator, SMES, flywheel energy storage system, high-field magnet, electromagnet or superconducting magnetic bearing.